REMARKS/ARGUMENTS

This is in response to the Office Action mailed October 3, 2002. Claims 1-15 and 17-21 are now pending.

Claim 1 has been amended to recite that the claimed relationship between flexural modulus and thickness permits selection of a substrate that satisfies a predetermined criterion and which is generally optimally adapted to radiate pressure waves in a particular frequency range.

The basis for rejecting the claims in the March 3, 2003 Office Action is essentially unchanged since the prior Office Action, except that claims 17-21 have now been examined and rejected as obvious over Flashinski et al.

The Flashinski et al. patent is not at all concerned with defining the material which can "optimally radiate pressure waves at a prescribed frequency that mimics the heartbeat of an animal." Acoustics are not of concern to Flashinski et al., is not discussed at all, and therefore does not anticipate nor render obvious the amended claims.

Applicants note that the mathematical relationships cited by the Examiner are perhaps more suitable for metals and ceramics, rather than polymers. This is because the behavior of a thin polymer is more akin to that of spaghetti than a uniform material and so more complicated relationships should be considered. Internal friction, which is often described by other terms such as "loss modulus," can result in a polymer being in both a glassy and a rubber mode at the same time, and so a polymer that can undergo a simple bending action cannot be said to have the ability to vibrate (that is, radiate pressure waves) at a prescribed frequency range as

claimed. The test for bending or flexural modulus is typically a tensile test (e.g., Ingstrom) whereas loss modulus is always a dynamic test (e.g., for fatigue or twisting mode). The Flashinski et al. patent is silent on these further characteristics, and cannot anticipate nor render obvious the invention defined by the claims now pending.

With further regard to dependent claims 17-21, Applicant noted that the pouch of the Flashinski et al. patent is described as comprising "preferred materials for forming the pouch are 1.0 mm to 3.0 mm thick films." Col. 3, lines 30-34. These dimensions are specified in millimeters, and are recited with precision, to one decimal place. These dimensions correspond to a substrate of 25-76 mils, or thousands of an inch. A thickness in this general range is required for the pouch of Flashinski et al. because the unit is heat sealed along one edge which is severed when the pouch is ready for use.

A substantially thinner dimension would prevent the pouch from properly ripping apart at the heat seal.

Moreover, a substantially thinner dimension would be an ineffective vapor barrier to the insecticide coated on the inside of the pouch.

By contrast, while the materials disclosed in the Flashinsky et al. patent may be bendable, they are not selected to "optimally radiate pressure waves at a prescribed frequency that mimics the heartbeat of an animal." And they can't according to the curve of Fig. 7 of the instant application because they are just too thick. Critically, as noted above, the substrate of the Flashinski et al. patent cannot be as thin as recited in claims 17-21 because it will fail to perform its intended functionality of reliable opening upon tearing the heat seal and of acting as

an effective vapor barrier. These differences and the fact that the claimed range defined by claims 17-21 (bounded by 5 mils) presents a substantial, non-overlapping thickness, Applicant urges the Examiner that it cannot be maintained that the invention so defined involves only routine skill in the art! Artisans had no motivation to re-engineer Flashinski et al.'s device so as to be effective to radiate waves as Fig. 7 shows.

Likewise, Applicants note that Stout is silent as to acoustic radiation, and therefore does not anticipate nor render obvious the claims now pending which recite a substrate that optimally radiates pressure waves in a prescribed frequency range, for all of the reasons noted above. Accordingly, withdrawal of the rejection of the pending claims as being anticipated by Stout et al. is requested.

Respectfully submitted,

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